

Claims

1. Wave power assembly comprising a hull (3) and a linear electric generator (5), the rotor (7) of which by means of connection means (4) is connected to the hull (3) and the stator (6) of which is arranged to be anchored at a sea/lake bottom (1), with the direction of motion of the rotor (4) defining the longitudinal direction of the generator and a plane perpendicular to the direction of motion defining the cross direction of the generator, **characterized in** that the rotor (7) is mounted in the cross direction by means of rolling elements (14) arranged between rolling surfaces (13) of the rotor (7) running in the longitudinal direction and support surfaces (15) of a support means (6, 29), which rolling elements (14) are arranged to roll against the rolling surfaces (13) of the rotor and the support surfaces (15) of the support means.
2. Wave power assembly according to claim 1, **characterized in** that the support means consists of the stator (6) of the generator.
3. Wave power assembly according to claim 1, **characterized in** that the stator is carried by a frame and that the support means consists of the frame.
4. Wave power assembly according to any one of claims 1–3, **characterized in** that the rolling surfaces (13) comprise rolling surfaces in at least three planes intersecting each other, the intersecting lines of which planes in cross-section form a polygon.
5. Wave power assembly according to the claims 1–4, **characterized in** that the rotor (7) in cross-section in the main is in the form of a polygon and that at least one rolling surface (13) is arranged on each one of at least three of the polygon sides of the rotor.
6. Wave power assembly according to claim 5, **characterized in** that at least one rolling surface (13) is arranged on each one of the polygon sides of the rotor.

7. Wave power assembly according to any one of claims 1–6, **characterized in** that in at least one plane a plurality of rolling elements (14) are arranged, distributed in the longitudinal direction and/or the cross direction.
- 5 8. Wave power assembly according to any one of claims 1–7, **characterized in** that the rolling elements are made as rolls (14).
9. Wave power assembly according to claim 8, **characterized in** that the rolling surfaces (13) and/or the support surfaces (15) are profiled and/or at least
10 some one of the rolls (14) has a profiled envelope surface (30).
10. Wave power assembly according to claim 9, **characterized in** that the profiling (30) consists of a regular pattern of valleys (31) and ridges (32) running in the cross direction and that the profiling on each roll (14) provided with a profiled
15 envelope surface corresponds with the profiling of the rolling surfaces (13) and the support surfaces (15).
11. Wave power assembly according to any one of claims 1–10, **characterized in** that at least some rolling elements (14) are mechanically connected (26,
20 27) with each other.
12. Wave power assembly according to any one of claims 1–11, **characterized in** that at least the surfaces of the rotor (7) facing the stator (6) and/or the surfaces of the stator facing the rotor are provided with a surface layer of insulating material (33, 34), preferably a plastic material.
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13. Wave power assembly according to claim 12, **characterized in** that the rotor (7) is entirely encapsulated by said material (33, 34) and/or the stator is entirely encapsulated by said material.
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14. Wave power assembly according to claim 12 or 13, **characterized in** that the rotor (7) is arranged to slide against the stator (6) with said surface layer as sliding surface.

15. Wave power assembly according to claim 14, **characterized in** that the bearing mounting of the rotor in the cross direction entirely is provided by said sliding surfaces, and hence that no rolling elements are arranged for bearing mounting in the cross direction.

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16. Wave power plant **characterized in** that it comprises a plurality of wave power assemblies (20a–20c) according to any one of claims 1–15.

17. Use of a wave power assembly according to any one of claims 1–15 in
10 order to generate electric energy.

18. Method in order to generate electric energy **characterized in** that the electric energy is generated by means of one or more wave power assemblies according to any one of claims 1–15.

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